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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/825,221

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Johannes Mathias Theodorus Antonius Adriaens

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02/27/2007

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EXAMINER

LYONS, MICHAEL A

ART UNIT

PAPER NUMBER

2877

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/27/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/825,221

Applicant(s)

ADRIAENS ET AL.

Examiner

Michael A. Lyons

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7 is/are allowed.
- 6) ☒ Claim(s) 8-10 and 12-19 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**Claims 8-10 and 12-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

Regarding claims 8-10, although the claims are directed to a statutory class of invention (in this instance, a process), the claims are directed to a judicial exception (in this case, an abstract idea); as such, pursuant to the Interim Guidelines on Patent Eligible Subject Matter (MPEP 2106), the claims must have either physical transformation and/or a useful, concrete, and tangible result. The claims fail to include transformation from one physical state to another, and although the claims appear to be useful and concrete, there does not appear to be a tangible result claimed. Merely determining displacements as a function of stage-rotation and stage position, and determining interferometer model parameters, including coefficients for terms dependent on a variable representing beamshear of a measurement beam, using a least square fit, would not appear to be sufficient to constitute a tangible result, since the outcome of the determination step has not been used in a disclosed practical application nor made available in such a manner that its usefulness in a disclosed practical application can be realized. As such, the subject matter of the claims is not patent eligible.

Further, MPEP 2106 states, "In making this determination, the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather on whether the final result achieved by the claimed invention is 'useful, tangible, and concrete'".

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As for claims 12-19, these claims merely further limit the limitations present in the claims on which they depend; therefore, they too are rejected as being directed to non-statutory subject matter for the reasons given above.

***Allowable Subject Matter***

**Claims 1-7 are allowed in view of the prior art.**

**Claims 8-10 and 12-19 would be allowed in view of the prior art should the 35 USC 101 rejections set forth above be properly overcome.**

**Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

The following is a statement of reasons for the indication of allowable subject matter:

As for claims 1 and 8-10, the prior art of record, taken either alone or in combination, fails to disclose or render obvious the various interferometric methods and apparatus, the methods and apparatus including, in combination with other essential elements, determining displacements as a function of state-rotation and stage position, and determining interferometer model parameters, including coefficients for terms dependent on a variable for beamshear of a measurement beam, using a least square fit, in combination with the rest of the limitations of the above claim.

For further reasoning, see the applicants' arguments dated September 27, 2006 in response to the previous Office action of record.

*Response to Arguments*

Applicants' arguments filed January 11, 2007 have been fully considered but they are not persuasive. The applicants argue that the claimed subject matter in claims 8 and 10 (and by extension, claim 9) is directed to statutory subject matter, and therefore the rejection under 35 USC 101 is improper. The examiner respectfully disagrees.

The applicants argue that the claims are not a judicial exception directed to, for example, an abstract idea for two reasons. First, drawing from the preambles of each claim, the applicants argue that the claims are directed to a device manufacturing method and an interferometer calibration method. Also, the applicants argue that the focus of the rejection ignores the entirety of the claims, instead focusing simply on the final result in making the determination.

As for the preambles of each claim, the examiner understands that the claims are directed to a statutory class of invention; the claims are directed to a process, and as such, fall within one of the statutory classes of invention set forth by 35 USC 101. However, the claims are directed to a judicial exception, in this case an abstract idea, because of the final result of the claim. As disclosed above, MPEP 2106 states, "In making this determination, the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather on whether the final result achieved by the claimed invention is 'useful, tangible, and concrete'". In the analysis for determining whether a claim is directed to a judicial exception, only the final result of the claim, in this case the determination of displacements and interferometer model parameters, is used. In the instant case, the final result of the claim, the determination step, is performed within a computer, and as such is a computer signal. Since this determination is

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merely a computer signal, and has not been put to some use explicitly disclosed within the claim, the determination is an abstract idea, and the claim is directed to non-statutory subject matter.

It is noted that claims 11 is considered to be statutory by the examiner in that, once the displacements have been measured and determined, this information is further used in a way that provides a tangible, concrete result, in this case the use of the measured displacements to control the movement of the moveable component.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Lyons whose telephone number is 571-272-2420. The examiner can normally be reached on Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MAL  
February 9, 2007



LAYLA G. LAUCHMAN  
PRIMARY EXAMINER